

EN

ORIGINAL INSTRUCTIONS
SOUND LOCATOR



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Notes regarding the instructions

Symbols


 **Warning of electrical voltage**
This symbol indicates dangers to the life and health of persons due to electrical voltage.


 **Warning of explosive substances**
This symbol indicates dangers to the life and health of persons due to potentially explosive substances.

 **Warning**
This signal word indicates a hazard with an average risk level which, if not avoided, can result in serious injury or death.

 **Caution**
This signal word indicates a hazard with a low risk level which, if not avoided, can result in minor or moderate injury.

Note
This signal word indicates important information (e.g. material damage), but does not indicate hazards.

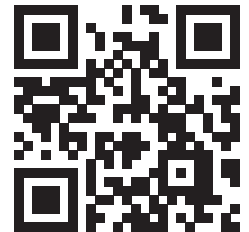
 **Info**
Information marked with this symbol helps you to carry out your tasks quickly and safely.

 **Follow the manual**
Information marked with this symbol indicates that the instructions must be observed.

You can download the current version of the instructions and the EU declaration of conformity via the following link:




LD6



<https://hub.trotec.com/?id=40313>

Safety

Read this manual carefully before starting or using the device. Always store the manual in the immediate vicinity of the device or its site of use.

 **Warning**
Read all safety warnings and all instructions.
Failure to follow the warnings and instructions may result in electric shock, fire and/or serious injury.
Save all warnings and instructions for future reference.

- Do not use the device in potentially explosive rooms or areas and do not install it there.
- Do not use the device in aggressive atmosphere.
- Do not immerse the device in water. Do not allow liquids to penetrate into the device.
- Protect the device from permanent direct sunlight.
- Do not remove any safety signs, stickers or labels from the device. Keep all safety signs, stickers and labels in legible condition.
- Do not open the device.
- Observe the storage and operating conditions (see Technical data).

Intended use

Only use the device for the non-destructive, acoustic leak detection in piping systems conveying liquid pumping media and within the measuring range specified in the technical data.

To use the device for its intended use, only use accessories and spare parts which have been approved by Trotec.

Foreseeable misuse

Do not use the device in potentially explosive atmospheres, for measurements in liquids and at live parts. Trotec accepts no liability for damages resulting from improper use. In such a case, any warranty claims will be voided. Any unauthorised modifications, alterations or structural changes to the device are forbidden.

Personnel qualifications

People who use this device must:

- have read and understood the instructions, especially the Safety chapter.

Residual risks



Warning of electrical voltage

There is a risk of a short-circuit due to liquids penetrating the housing!
Do not immerse the device and the accessories in water. Make sure that no water or other liquids can enter the housing.



Warning of electrical voltage

Work on the electrical components must only be carried out by an authorised specialist company!



Warning of explosive substances

Do not expose the batteries to temperatures above 60 °C! Do not let the batteries come into contact with water or fire! Avoid direct sunlight and moisture. There is a risk of explosion!



Warning

Risk of suffocation!
Do not leave the packaging lying around. Children may use it as a dangerous toy.



Warning

The device is not a toy and does not belong in the hands of children.



Warning

Dangers can occur at the device when it is used by untrained people in an unprofessional or improper way! Observe the personnel qualifications!



Caution

Lithium-ion batteries might catch fire in case of overheating or damage. Ensure a sufficient distance to heat sources, do not subject lithium-ion batteries to direct sunlight and make sure not to damage the casing. Do not overcharge lithium-ion batteries. If the battery is not permanently installed in the device, only use smart chargers that switch off automatically when the battery is fully charged. Charge lithium-ion batteries in due time before they are discharged completely.



Caution

Keep a sufficient distance from heat sources.

Note

To prevent damages to the device, do not expose it to extreme temperatures, extreme humidity or moisture.

Note

Do not use abrasive cleaners or solvents to clean the device.

Information about the device

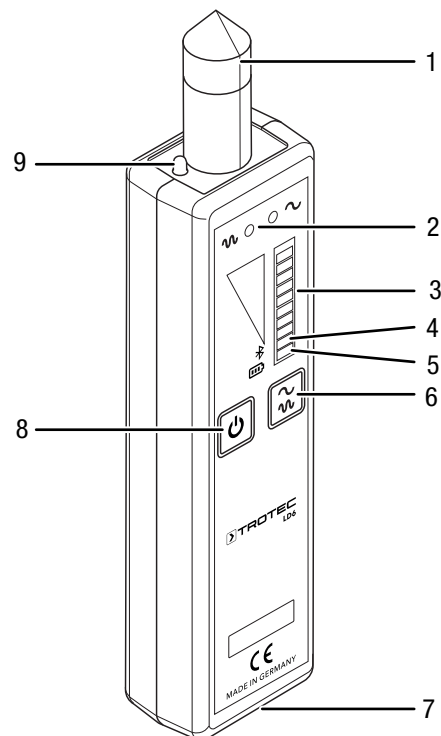
Device description

With this device leakage sounds can be transmitted via Bluetooth to the corresponding headphones and rendered audible. The sound level is displayed analogously at the device.

Depending on the situation, the device can be operated with a connected tip, extension, tripod or pot magnet.

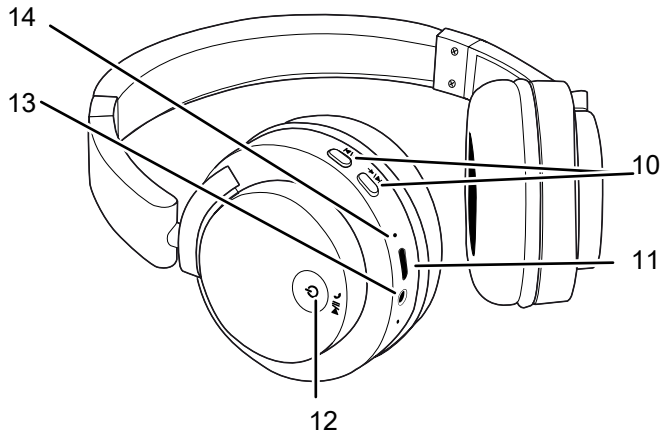
The frequency can be adjusted with due regard to the respective material, the pressure and the presumed leak size.

Device depiction



No.	Designation
1	Measuring tip (exchangeable)
2	Frequency LEDs (high, low)
3	LED bar graph, 8 levels
4	Bluetooth LED
5	Battery LED
6	Frequency button
7	Micro USB port
8	Power button
9	Illumination LED

Headphones



No.	Designation
10	Volume control (V+ / V-)
11	Micro USB port
12	Power button
13	AUX port
14	Headphone LED (blue / red)

Technical data

Measuring device

Parameter	Value
Signal input connection	Bluetooth (for supplied headphones)
Bluetooth frequency range	2,402 to 2,480 GHz
Bluetooth max. transmission power	+1.5 dB
Level indication	LED bar graph, 8 levels
Acoustic rendition	Noise-cancelling BT headphones
Frequency range	0 Hz to 5000 Hz
Power supply	NiMH battery
Battery capacity	1000 mAh
Battery charging voltage	5 V (Micro USB, min. 500 mA)
Battery charging time	approx. 4 h to 6 h
Battery operating time per charge	approx. 8 h to 10 h
Operating conditions	-10 °C to +50 °C
Storage conditions	-20 °C to +60 °C
Dimensions (length x width x height)	114 x 35 x 25 (mm)
Weight (device only)	210 g (measuring device)

Headphones (noise-cancelling)

Parameter	Value
Bluetooth version	Version 4.0 class 2
Bluetooth frequency range	2,402 to 2,480 GHz
Supported Bluetooth profiles	A2DP, AVRCP, HSP, HFP
Supported codecs	SBC (subband codec)
Range	Up to 10 metres in an open area without obstructions
Power supply	Li-ion battery
Battery capacity	250 mAh
Battery charging voltage	5 V (Micro USB)
Battery charging time	approx. 2 h to 3 h
Battery operating time per charge	approx. up to 10 h at medium volume
Operating conditions	-10 °C to +40 °C
Storage conditions	-10 °C to +40 °C
Audio input	DC3.5 female
Dimensions (length x width x height)	210 x 170 x 50 (mm)
Weight (headphones only)	180 g

Scope of delivery

- 1 x Measuring device LD6 with measuring tip (e.g. for water lines, valves)
- 1 x Headphones
- 1 x 220 V charger with 3 exchangeable travel adapters
- 1 x 12 V charger
- 2 x Micro USB charging cable for measuring device and headphones each
- 2 x Extension rod
- 1 x Tripod (e.g. for flooring)
- 1 x Pot magnet (e.g. for fittings, valves and magnetic lines)
- 1 x Transport case
- 1 x Quick guide

Transport and storage

Note

If you store or transport the device improperly, the device may be damaged.

Note the information regarding transport and storage of the device.

Transport

For transporting the device, use the transport case included in the scope of delivery in order to protect the device from external influences.

The supplied Li-ion batteries are subjects to the requirements of dangerous goods legislation.

Observe the following when transporting or shipping Li-ion batteries:

- The user may transport the batteries by road without any additional requirements.
- If transport is carried out by third parties (e.g. air transport or forwarding company), special requirements as to packaging and labelling must be observed. This includes consulting a dangerous goods specialist when preparing the package.
 - Only ship batteries if their housing is undamaged.
 - Please also observe any other national regulations.

Storage

When the device is not being used, observe the following storage conditions:

- dry and protected from frost and heat
- protected from dust and direct sunlight
- For storing the device, use the transport case included in the scope of delivery in order to protect the device from external influences.
- the storage temperature complies with the values specified in the Technical data

Operation

Charging the battery

The battery is partially charged upon delivery to avoid damage to the battery caused by a deep discharge.



Warning of electrical voltage

Before each use of the charger or power cable, check for damages. If you notice damages, stop using the charger or power cable!

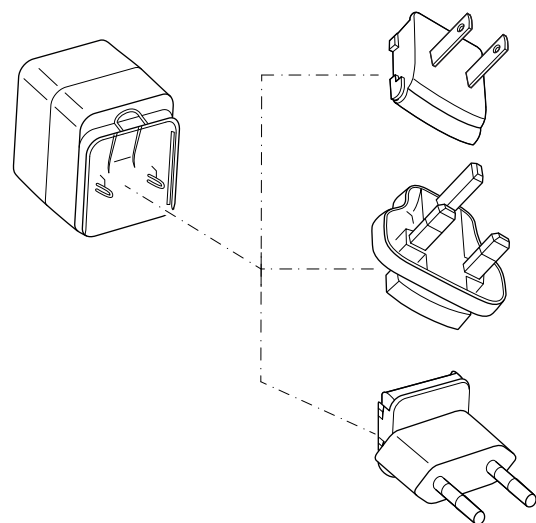
Note

The battery can be damaged in case of improper charging.

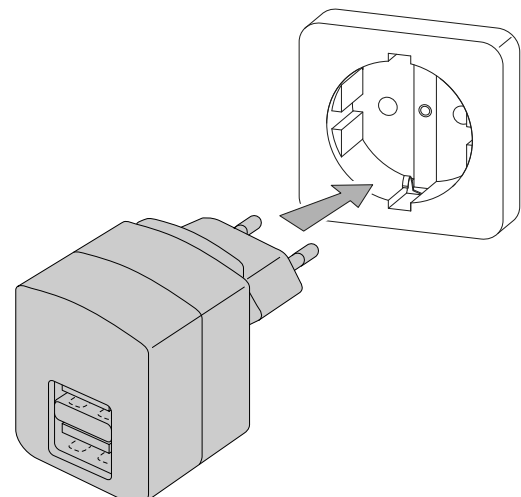
Never charge the battery at ambient temperatures below 10 °C or above 40 °C.

The battery should be charged prior to initial start-up and when the battery is low (battery LED (5.14) flashes slowly or headphone LED (14) is illuminated in red). To do so, please proceed as follows:

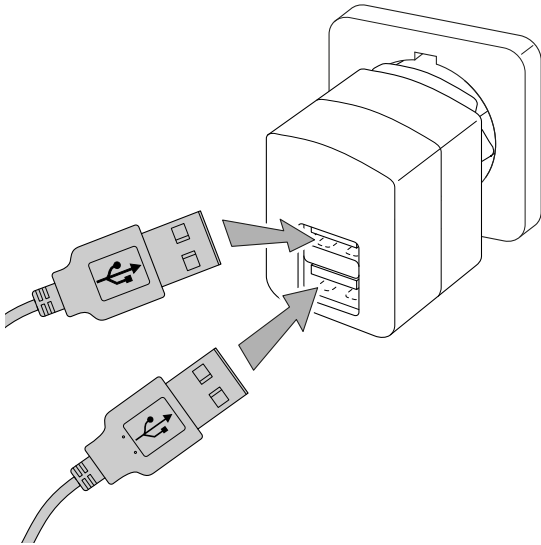
1. Select the charging adapter suitable for the national grid.



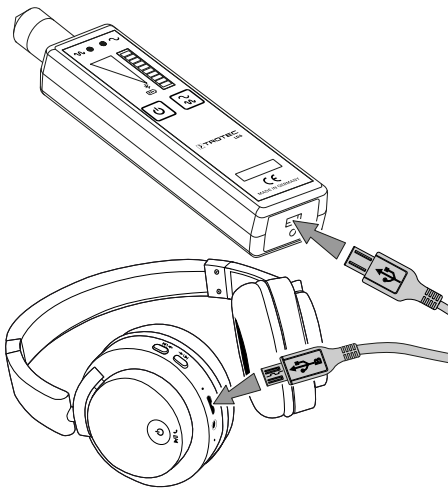
2. Plug the charger into a properly fused mains socket.



3. Connect the USB charging cable to the charger.



4. Connect the USB charging cable to the device and / or headphones (both devices use the Micro USB system).



- ⇒ The battery LED (5) is illuminated in red. The charging process is completed as soon as the light turns green.
 - ⇒ The headphone LED (14) is illuminated in red. The charging process is completed as soon as the light goes out.
5. Remove the charging cable when the charging process is completed.
 6. Pull the charger out of the mains socket.

Initial start-up

Prior to initial start-up headphones and device need to be paired.

1. Press and hold the power button (8) at the device for approx. 6 to 8 s until the Bluetooth LED (4) begins to flash.
 - ⇒ The device is now in pairing mode.
2. Press and hold the *power* button (12) at the headphones for approx. 7 s until the headphone LED (14) flashes blue in a rapid interval.
 - ⇒ The headphones are now in pairing mode.
3. Hold both devices in the immediate vicinity of one another until the connection is established.
 - ⇒ The Bluetooth LED (4) will be permanently illuminated.
 - ⇒ The headphones emit a single brief acoustic confirmation signal and the headphone LED (14) is permanently illuminated in blue.
4. First, turn down the volume of the headphones by pressing the volume button (10, V-).
 - ⇒ An acoustic confirmation signal indicates the current sound level.

Switching the device on



Info

If you have just finished pairing the devices for initial start-up, both the device and the headphones are switched on already.

1. Press the power button (8) at the device until the battery LED (5) is illuminated.
 - ⇒ The device is switched on.
 - ⇒ The LED bar graph will indicate the sound level after a few seconds.

Switching the headphones on



Info

If you have just finished pairing the devices for initial start-up, both the device and the headphones are switched on already.

1. Press the power button (12) until the headphone LED (14) lights up in blue. An acoustic confirmation signal is emitted additionally.
 - ⇒ The headphones link up with the device.
 - ⇒ If the connection has been established successfully, there should be audible sounds. Adjust the volume of the headphones if necessary.

If the connection attempt fails, switch both units off and then back on in the following order:

- Device
- Headphones

If further connection attempts keep failing, delete the current device pairing of the headphones at the device and start over in pairing mode. To do so, please proceed as follows:

- ✓ The device is switched off.
 - ✓ The headphones are switched off.
1. Press and hold the frequency button (6) at the device and then the power button (8). Keep both buttons pressed simultaneously.
 2. If the Bluetooth LED (4) flashes, let go of the buttons.
 3. If all LEDs flash, you can switch the device off.
 - ⇒ All pairings are now deleted.
 4. Now proceed as described in section Initial start-up.

Volume control at the headphones

1. Press the volume button (10).
 - ⇒ Press V+ to increase the volume or V- to reduce it.
 - ⇒ An acoustic confirmation signal indicates the maximum or minimum sound level.

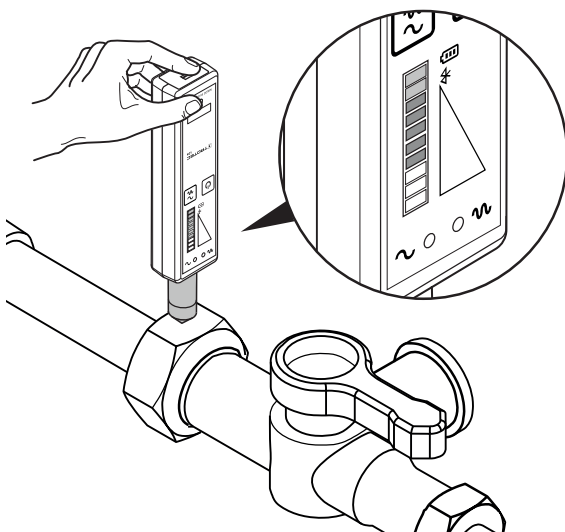
Carrying out a measurement



Info

Note that moving from a cold area to a warm area can lead to condensation forming on the device's circuit board. This physical and unavoidable effect can falsify the detection result. In this case, the device emits either no signals or they are incorrect. Wait for a few minutes until the device has become adjusted to the changed conditions before using the device.

- ✓ The device is switched on.
 - ✓ The volume control at the headphones is set to minimum.
1. Put on the headphones.
 2. Hold the measuring tip to the test object.

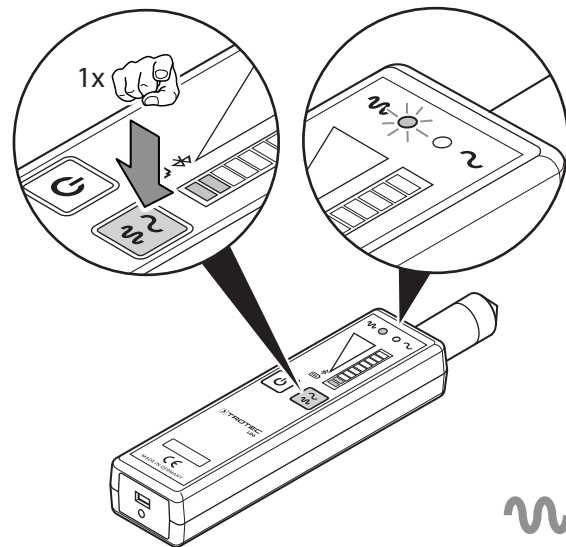


⇒ The sound level is indicated on the LED bar graph (3) and the sound can be heard through the headphones.

Changing the frequency range

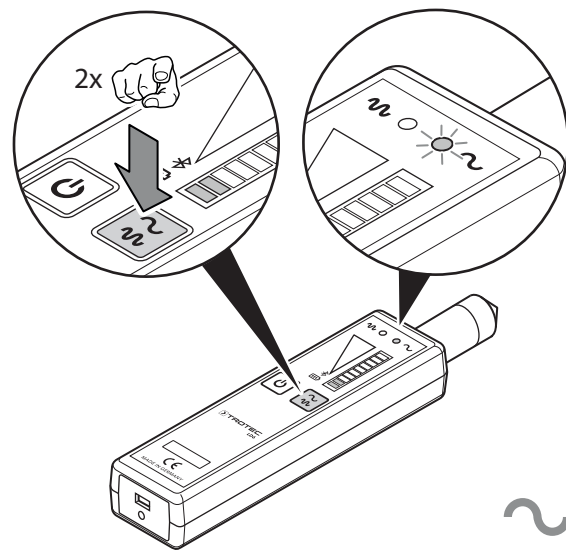
Upon switch-on the device allows for all frequencies.

1. Press the frequency button (6) once to activate high frequencies.



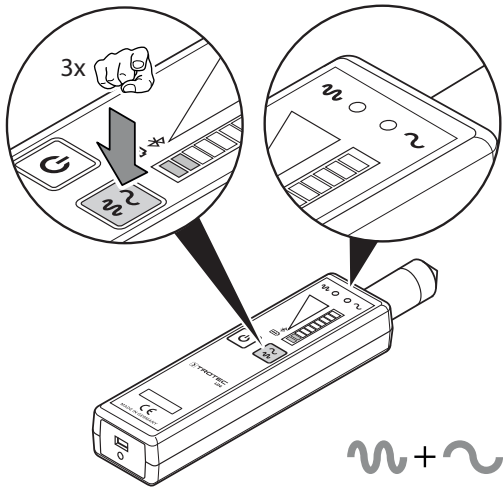
⇒ The LED for high frequencies will be illuminated.

2. Press the frequency button (6) twice to activate low frequencies.



⇒ The LED for low frequencies will be illuminated.

3. Press the frequency button (6) three times to activate all frequencies.



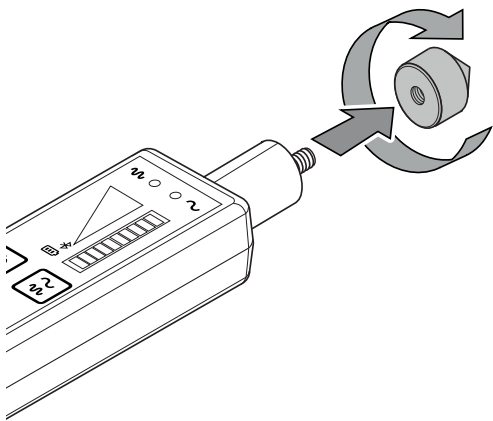
⇒ The frequency LEDs (2) go out.

Exchanging the measuring tip

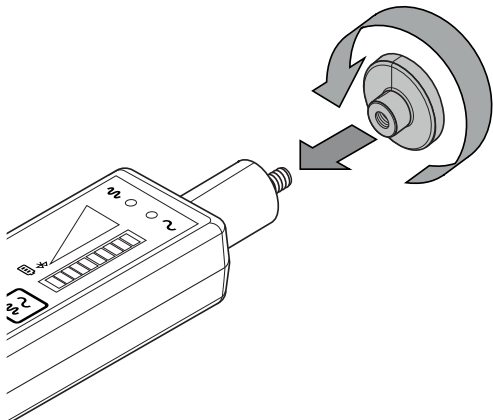
The measuring tip design can vary depending on the surface to be measured or on the medium contained in the conveyor line. Upon delivery the device comes equipped with the standard measuring tip, e.g. for checking water lines.

To exchange the measuring tip, please proceed as follows:

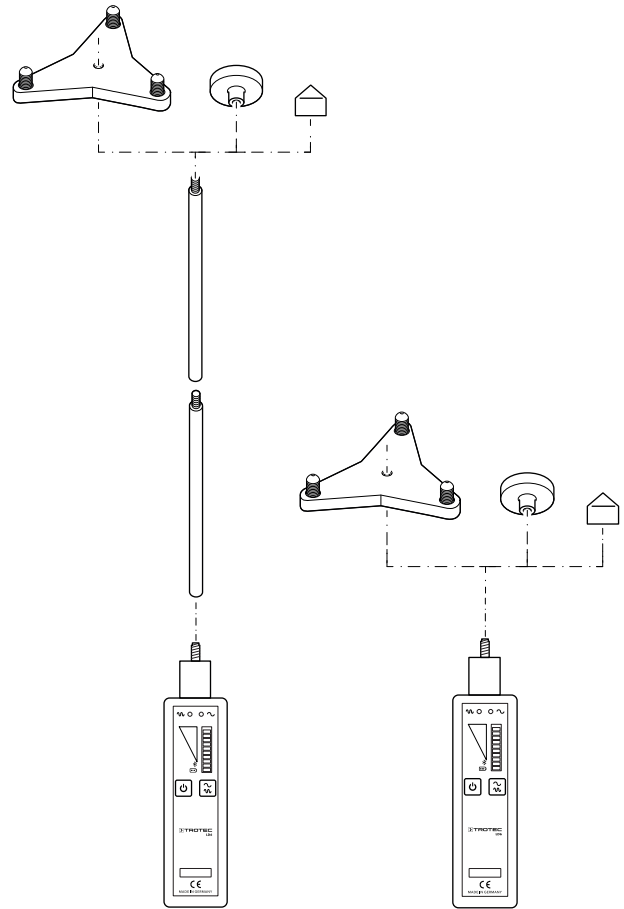
1. Unscrew the measuring tip from the device.



2. Instead attach for instance the pot magnet to the device.



The following schematic representation provides an overview of the possible combinations. You can use one or both extensions as needed.



Switching the headphones off

1. Press the *power* button (12) until the headphone LED (13) lights up in red. An acoustic confirmation signal is emitted additionally.
 - ⇒ The headphones switch off.

Switching the device off

1. Press and hold the power button (8) at the device for approx. 3 s until the LEDs light up briefly.
 - ⇒ The device switches off.

Maintenance and repair

Charging the battery

The battery should be charged when the battery LED (5) at the device flashes slowly or the headphone LED (13) is illuminated in red or device or headphones can no longer be switched on (see chapter Charging the battery).

Cleaning

Clean the device with a soft, damp and lint-free cloth. Make sure that no moisture enters the housing. Do not use any sprays, solvents, alcohol-based cleaning agents or abrasive cleaners, but only clean water to moisten the cloth.

Repair

Do not modify the device or install any spare parts. For repairs or device testing, contact the manufacturer.

Disposal

Always dispose of packing materials in an environmentally friendly manner and in accordance with the applicable local disposal regulations.



The icon with the crossed-out waste bin on waste electrical or electronic equipment is taken from Directive 2012/19/EU. It states that this device must not be disposed of with the household waste at the end of its life. You will find collection points for free return of waste electrical and electronic equipment in your vicinity. The addresses can be obtained from your municipality or local administration. You can also find out about other return options that apply for many EU countries on the website <https://hub.trotec.com/?id=45090>. Otherwise, please contact an official recycling centre for electronic and electrical equipment authorised for your country.

The separate collection of waste electrical and electronic equipment aims to enable the re-use, recycling and other forms of recovery of waste equipment as well as to prevent negative effects for the environment and human health caused by the disposal of hazardous substances potentially contained in the equipment.



In the European Union, batteries and accumulators must not be treated as domestic waste, but must be disposed of professionally in accordance with Directive 2006/66/EC of the European Parliament and of the Council of 6 September 2006 on batteries and accumulators. Please dispose of batteries and accumulators according to the relevant legal requirements.

Declaration of conformity

We – Trotec GmbH – declare in sole responsibility that the product designated below was developed, constructed and produced in compliance with the requirements of the EU Radio Equipment Directive in the version 2014/53/EU.

Product model / Product: LD6
Product type: sound locator
Year of manufacture as of: 2022

Relevant EU directives:

- 2011/65/EU
- 2012/19/EU
- 2014/30/EU

Applied harmonised standards:

Applied national standards and technical specifications:

- EN 55022:2011-12
- EN 61000-4-2:2009-12
- EN 61000-4-6:2014-08
- EN 61000-4-4:2013-04
- EN IEC 61000-4-3:2021-11
- EN IEC 61000-6-2:2019-11
- EN IEC 61000-6-4:2020-09

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Place and date of issue:

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